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ABSTRACT

This bibliography listing references in the area of special education finance was developed by means of computerized bibliographic searches, nominations from leading special educators, and citation searches. References are first grouped into topical mini-bibliographies on the following subjects: cost analysis methodologies; special education cost studies; funding formulas and incentives/disincentives in special education; funding sources/revenues for special education; equity issues in special education; educational and reform policy in special education; eligibility and labeling of youth with disabilities; delivery systems and placement; assessment, outcomes, and accountability in special education; special education instructional, related, and social services; special education due process and legislation; special education collaboration with other federal categorical programs; relationship between special and regular education; and regular education finance. Following the topical bibliography is an annotated bibliography which provides descriptions of some of the listings arranged alphabetically by author. (DB)

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CSEF

Center for Special Education Finance

Topical and Annotated Bibliographies: A User's Guide

October 12, 1993

Prepared By:

Ixtlac E. Dueñas

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Introduction

The Center for Special Education Finance (CSEF) topical bibliography is designed as a resource for individuals seeking current literature in the area of special education finance. In addition, it serves as the foundation for CSEF's narrative review of the literature. The bibliography is not intended to be inclusive of all policy issues pertaining to special education. It should be considered a work in progress that will continue to evolve throughout the life of the Center.

We have attempted to create a comprehensive bibliography covering a broad range of issues related to special education finance. Topics of specific interest include cost analysis methodologies, cost estimates, funding formulas, incentives and disincentives, funding sources, equity, and the effects of general education finance on special education. We used three primary sources to identify relevant articles and reports: (1) computerized ERIC searches; (2) telephone conversations with experts and advisors in the field of special education to obtain recommendations of current literature; and (3) searches through references cited in related articles or reports.

In the process of identifying literature directly related to special education finance, we encountered additional topics which had fiscal implications for special education. From this group of topics, we selected and incorporated the following into our bibliography: special education reform policy; eligibility and labeling of youth with disabilities; delivery systems, placement, and efficiency in special education programs; assessment, outcomes, and accountability in special education;

instructional, related and social services; due process; and collaboration with other categorical programs and with regular education.

How to Use the Topical and Annotated Bibliographies

The topical bibliography was designed to allow users to easily identify those articles or reports which may be of interest to them. The bibliography is arranged into 14 topics, which are bulleted below:

Special Education Finance Topics

- Cost Analysis Methodologies
- Special Education Cost Studies
- Funding Formulas and Incentives/Disincentives in Special Education
- Funding Sources/Revenues for Special Education
- Equity Issues in Special Education

Topics Related to Special Education Finance

- Educational and Reform Policy in Special Education
- Eligibility and Labeling of Youth with Disabilities
- Delivery Systems and Placement
- Assessment, Outcomes, and Accountability in Special Education
- Special Education Instructional, Related, and Social Services
- Special Education Due Process and Legislation
- Special Education Collaboration with Other Federal Categorical Programs
- Relationship Between Special and Regular Education
- Regular Education Finance

The first five topics contain articles and reports directly related to finance in special education. The next six topics have fiscal implications for special education finance. The last three topical areas include articles on other federal categorical programs and regular education finance.

Under each topic, articles and reports are arranged in alphabetical order by author. One article may appear under more than one topic depending on the types of issues that it covers. In addition, a coding scheme identifies which bibliographic references are on file at CSEF and which are annotated. In the left margin beside each reference, there are one or two codes within parentheses, for example **(F, A)**. The letter **"F"** indicates that the reference is **on file**. The letter **"A"** indicates the reference is **annotated**. An asterisk **"*"** will appear if a reference is not on file or if it is not annotated. For example, if an article is on file but is not annotated the coding scheme will appear as **(F, *)**.

Immediately following the topical bibliography is the annotated bibliography. The annotated bibliography provides a brief description of each article or report. It is arranged alphabetically by author, rather than by topic.

Topical Bibliography

Cost Analysis Methodologies

(F, A) Affleck, J. Q., Madge, S., Adams, A., & Lowenbraun, S. (1988). Integrated classroom versus resource model: Academic viability and effectiveness. *Exceptional Children, 54*(4), 339-348.

(F, *) Akin, M. C. (1970). Evaluating the cost-effectiveness of instructional programs. In M. C. Wittrock & D. E. Willey (Eds.), *The evaluation of instruction: Issues and problems* (pp. 221-237). New York, NY: Holt, Rinehart, and Winston, Inc.

(F, *) Benson, C. (1978). *The economics of public education*. Boston, MA: Houghton Mifflin Company.

(F, *) Brown, L., Shiraga, B., Ford, A., Nisbet, J., VanDevanter, P., Sweet, M., York, J., & Loomis, R. (1983). *Teaching severely handicapped students to perform meaningful work in nonsheltered vocational environments*. Madison, WI: University of Wisconsin.

(F, *) Brown, L., Rogan, P., Shiraga, B., Zanella Albright, K., Kessler, K., Bryson, F., VanDevanter, P., & Loomis, R. (1986). A vocational follow-up evaluation of the 1984-1986 Madison Metropolitan School District graduates with severe intellectual disabilities. In L. Brown, K. Zanella Albright, P. Rogan, J. York, B. Shiraga, A. Udvari Solner, & E. Long (Eds.), *Educational programs for students with severe intellectual disabilities:*

Vol.XVI (pp. 1-119). Madison, WI: Madison Metropolitan School District.

(F, *) Bruininks, R. H., Lewis, D. R., & Thurlow, M. L. (Eds.). *Assessing outcomes, costs and benefits of special education programs* (Report Number 88-1). Minneapolis, MN: University of Minnesota, Department of Educational Psychology, University Affiliated Program on Developmental Disabilities.

(F, *) Bruininks, R. H., & Lewis, D. R. (1986). *Cost analysis for district level special education planning, budgeting and administration* (Grant No. G008400605). Minneapolis, MN: University of Minnesota.

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(F, *) Decision Resources Corporation. (1985). *Survey of expenditures for special education and related services: Conceptual and methodological report*. (FEDAC Package -- Contract Number 300-84-0257, Office of Special Education, Department of Education). Washington, DC: Author.

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(*, *) Levin, H. M. (1991). Cost-effectiveness at quarter century. In M.W. McLaughlin & D.C. Phillips (Eds.), *Evaluation and education at quarter century: Ninetieth yearbook of the national society for the study of education* (pp. 188-209). Chicago, IL: University of Chicago Press.

(F, A) Levin, H. M. (1983). *Cost-effectiveness: A primer.* Beverly Hills, CA: SAGE Publications, Inc.

(F, *) Levin, H. M. (1981). Cost analysis. In N. Smith (Ed.), *New techniques for evaluation.* Beverly Hills, CA: Sage Publications.

(F, *) Levin, H. M. (1975). Cost-effectiveness in evaluation research. In M. Guttentag & E. Struening (Eds.), *Handbook of evaluation research,* Vol. 2. Beverly Hills, CA: Sage Publications.

(F, *) Lewis, D. R., Johnson, D. R., Erickson, R. N., & Bruininks, R. H. (1992). *Final report: Linking costs to multiattribute outcomes in special education.* Minneapolis, MN: University of Minnesota, Institute on Community Integration.

(F, A) Lewis, D. R., Bruininks, R. H., & Thurlow, M. L. (1990). Cost analysis of special schools for students with mental retardation. *Journal of Special Education, 24*(1), 33-50.

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(F, A) Lewis, D. R., Bruininks, R. H., & Thurlow, M. L. (1991). Efficiency considerations in delivering special education services to persons with severe mental retardation. *Mental Retardation,* 29(3), 129-137.

(F, A) Lewis, D. R., Bruininks, R. H., Thurlow, M., & McGrew, K. (1988). Using benefit-cost analysis in special education. *Exceptional Children, 55*(3), 203-214.

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(F, *) Piuma, M. F. (1990). *A benefit-cost analysis of integrated and segregated programs serving individuals with severe disabilities: A sourcebook of technical methods and procedures used in the economic analysis*. San Francisco, CA: San Francisco State University.

(F, A) Slobojan, A. (1987). Descriptive cost analysis of special education. *Journal of Education Finance, 13*(1), 99-106.

(F, A) Stultz, J. (1976). The incidence of educational needs and the cost of meeting these needs in the United States in 1980. *Journal of Education Finance, 1*, 361-72.

(F, *) VanDevanter, P., Yellnek, N., Brown, L. Schroeder, J., Loomis, R., & Gruenewald, L. (1981). A follow-up examination of severely handicapped graduates of the Madison Metropolitan School District from 1971-1978. In L. Brown, D. Baumgart, I. Pumpian, J. Nisbet, A. Ford, A. Donnellan, M. Sweet, R. Loomis, & J. Schroeder (Eds.), *Educational programs for severely handicapped students*, Vol. XI (pp. 1-177). Madison, WI: Madison Metropolitan School District.

Special Education Cost Studies[1]

■ National Studies

(F, *) Barro, S. M. (1992). *Cost of education differentials across the states.* Washington, D.C.: SMB Economic Research, Inc,

(F, *) Decision Resources Corporation (1985). *Survey of expenditures for special education and related services: Conceptual and methodological report.* (FEDAC Package -- Contract Number 300-84-0257, Office of Special Education, Department of Education). Washington, DC: Author.

(F, A) Finlan, T. G. & Hartman, W. T. (1992). Cost projections for learning disabilities. In P. Anthony & S. L. Jacobson (Eds.), *Helping at-risk students: What are the educational and financial costs?* (pp. 166-188). Newbury Park, CA: Corwin Press, Inc.

(F, A) Hartman, W. T. (1983). Projecting special education costs. In J. G. Chambers & W. T. Hartman, (Eds.), *Special education policies: Their history, implementation and finance* (pp. 241-288). Philadelphia, PA: Temple University Press.

(F, A) Kakalik, J. S., Furry, W. S., Thomas, M. A., & Carney, M. F. (1981). *The cost of special education: A Rand Note* (Report No. N-1792-ED). Santa Monica, CA: Rand Corporation.

(F, *) Kakalik, J. S. (1977). *Policy issues in the cost and financing of special education* (Report No. WN-9680-HEW). Santa Monica, CA: Rand Corporation.

[1]The following studies can also be included under the topic heading "Cost Analyis Methodologies."

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(*, *) Rossmiller, R. A., Hale, J. A., & Frohreich, L. E. (1970). *Educational programs for exceptional children: Resource configurations and costs* (National Education Finance Project, Special Study No. 2). Madison, WI: Department of Educational Administration, University of Wisconsin.

(F, *) Sandia National Laboratories. (1991). *Testimony of Michael A. Wartell and Robert M. Huelskamp before subcommittee on elementary, secondary, and vocational education; Committee on Education and Labor; U.S. House of Representatives (Executive Summary).* Albuquerque, NM: Author.

(F, A) U. S. Department of Education, Special Education Programs (1992). *To assure the free appropriate public education of all children with disabilities, fourteenth annual report to Congress on the implementation of the Individuals with Disabilities Education Act.* Washington, DC: Author.

■ State Studies

(F, A) Anthony, P. & Strathie, J. (March, 1993). *Integrating special education, bilingual, and Chapter 1 students into the regular classroom: A cost/benefit analysis.* Paper presented at the annual conference of the American Education Finance Association, Albuquerque, NM.

(F, *) Chambers, J. G. & Parrish, T. B. (1988). *A survey of expenditures on special education and related services: An analysis of the four oversampled states.* Draft report prepared for the Office of Special Education Programs (OSEP), U. S. Department of

Education. Under subcontract with Decision Resources Corporation, Washington, DC.

(F, *) Chambers, J. G. & Parrish, T. B. (1987). *Education program costs in Connecticut: Phase II.* Prepared for the Office of Legislative Research, State of Connecticut. Mountain View, CA: Associates for Education Finance and Planning, Inc.

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(F, A) Chambers, J. G. & Parrish, T. B. (1985). *A study of the costs for services provided to individuals with exceptional needs in California nonpublic, nonsectarian schools.* Mountain View, CA: Associates for Education Finance and Planning, Inc.

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(F, *) Chambers, J. G. & Parrish, T. B. (1982a). *The development of a resource cost model funding base for education finance in Illinois* (Volume I: Executive Summary; Volume II: Technical Report). Prepared for the Illinois State Board of Education. Palo Alto, CA: Associates for Education Finance and Planning, Stanford University.

(F, A) Miller, C. J., Stark, S. A., & Picus, L. (1993). Maintaining quality special education programs. *Thrust for Education Leadership,* 22(4), 38-43.

(F, A) Shields, P. M., Jay, E. D., Parrish, T. B., & Padilla, C. (1989). *Alternative programs and strategies for serving students with learning disabilities and other learning problems (final report).* Menlo Park, CA: SRI International.

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(F, A) Anderson, D. F. (1982). Problems in estimating the costs of special education in urban areas: The New York City case. *Journal of Education Finance, 7*(4), 403-424.

(F, *) Bruininks, R. H. & Lewis, D. R. (1986). *Cost analysis for district level special education planning, budgeting and administration.* (Grant No. G008400605). Minneapolis, MN: University of Minnesota.

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(F, A) Lewis, D. R., Bruininks, R. H., Thurlow, M., & McGrew, K. (1988). Using benefit-cost analysis in special education. *Exceptional Children, 55*(3), 203-214.

(F, A) Marriner, L. S. (1977). The cost of educating handicapped pupils in New York City. *Journal of Education Finance, 3,* 82-97.

(F, A) Raphael, E. S., Singer, J. D., & Walker, D. K. (1985). Per pupil expenditures on special education in three metropolitan school districts. *Journal of Education Finance, 11,* 69-88.

(F, A) Singer, J. D. & Raphael, E. S. (1988). *Per pupil expenditures for special education: To whom are limited resources provided?* (Grant No. G008630147). Cambridge, MA: Harvard University.

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(F, *) Bernstein, C. D., Hartman, W. T., Kirst, M., & Marshall, R. S. (1976). *Financing educational services for the handicapped: An analysis of current research and practices.* Reston, VA: The Council for Exceptional Children.

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(F, A) Chaikind, S., Danielson, L. C., & Brauen, M. L. (1993). What do we know about the costs of special education? A selected review. *The Journal of Special Education, 26*(4), 344-370.

(F, A) Osher, T., George, J., & Gonzalez, P. (1991). *A resource paper on the relative cost of special education* (Contract No. 300-87-0155). Alexandria, VA: National Association of State Directors of Special Education, Inc.

(F, A) Moore, M. T., Walker, L. J., & Holland, R. P. (1982). *Finetuning special education finance: A guide for state policymakers.* Princeton, NJ: Educational Testing Service, Education Policy Research Institute.

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(F, A) Crowner, T. (1985). A taxonomy of special education finance. *Exceptional Children, 51*(6), 503-508.

(F, A) Dempsey, S. & Fuchs, D. (1993). "Flat" versus "weighted" reimbursement formulas: A longitudinal analysis of state-wide special education funding practices. *Exceptional Children, 59*(5), 433-443.

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(F, *) Hartman, W. T. (1991). Special education funding in Pennsylvania: Problems and alternatives. *Journal of Education Finance, 16,* 360-387.

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Institute for Research on Educational Finance and Governance, Stanford University.

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(F, *) O'Reilly, F. (1989). *State special education finance systems, 1988-89.* Washington, D.C.: National Association of State Directors of Special Education.

(F, *) Parrish, T. B. (1987). *The funding and placement of special education students in public and private schools in California.* Unpublished doctoral dissertation. Stanford University, Palo Alto, CA.

(F, *) Picus, L. O. (1991). *Using incentives to stimulate improved school performance: An assessment of alternative approaches* (Working Paper). Los Angeles, CA: University of Southern California, Center for Research in Education Finance.

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(F, A) Pyecha, J. N., Kuligowski, B. A., & Wiegerink, R. (1984). *Phase I report: A policy-oriented study of special education's service delivery system (Volume IV: An exploration of issues regarding special education costs and funding trends and their relation to the provision*

of special education and related services) (RTI Report No. RTI/2706-06-01FR). North Carolina: Research Triangle Park.

(F, *) Sage, D. (1992). Response to William T. Hartman: Funding models for special education. *Remedial and Special Education, 13*(6), 59-60.

(F, *) *State finance abstract a review of state finance mechanisms for special education* (Draft). Illinois: Illinois State Board of Education.

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Funding Sources/Revenues for Special Education

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(F, A) Weintraub, F. J. & Higgins, S. T. (1982). *Planning state fiscal policies.* Reston, VA: The Council for Exceptional Children.

Equity Issues in Special Education

(F, A) Boscardin, M. L. (1987). Local-level special education due process hearings: Cost issues surrounding individual student differences. *Journal of Education Finance, 12,* 391-402.

(F, A) McCarthy, E. F. & Sage, D. D. (1982). State special education fiscal policy: The quest for equity. *Exceptional Children, 48*(5), 414-419.

(F, A) Ysseldyke, J. E., Thurlow, M. L., Algozzine, B., & Nathan, J. (1993). Open enrollment and students with disabilities: Issues, concerns, fears, and anticipated benefits. Exceptional Children, *59*(5), 390-401.

Educational and Reform Policy in Special Education

(F, A) Anthony, P. (1991). Financing special education in an era of fiscal restraint. *School Business Affairs, 57*(9), 16-20.

(F, *) Bernstein, C. D., Hartman, W. T., Kirst, M., & Marshall, R. S. (1976). *Financing educational services for the handicapped: An analysis of current research and practices.* Reston, VA: The Council for Exceptional Children.

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(F, A) Davis, S. (1992). *Report card to the nation on inclusion in education of students with mental retardation.* Arlington, TX: The Association for Retarded Citizens (Arc).

(F, *) Finlan, T. G. (1990). *The growth of learning disabilities: Fiscal and definitional implications.* Unpublished doctoral dissertation. Pennsylvania State University, University Park, PA.

(F, A) Gartner, A. & Lipsky, D. K. (1987). Beyond special education: Toward a quality system for all students. *Harvard Educational Review, 57*(4), 367-395.

(F, A) Hagerty, G. J. & Abramson, M. (1987). Impediments to implementing national policy change for mildly handicapped students. *Exceptional Children, 53*(4), 315-323.

(F, *) Hales, R. M. & Carlson, L. B. (1992). *Issues and trends in special education.* Lexington, KY: University of Kentucky, Federal Resource Center for Special Education.

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Affleck, J. Q., Madge, S., Adams, A., & Lowenbraun, S. (1988). Integrated classroom versus resource model: Academic viability and effectiveness. *Exceptional Children, 54*(4), 339-348.

This article compares student achievement data and cost-effectiveness of the Integrated Classroom Model (ICM) and resource room programs. The ICM is defined as a program which shapes regular education to meet the needs of special education students and expands special education to meet the needs of regular education students. Based on the results of pre- and post-scores on reading, math and language tests, there were no significant differences in the academic achievement among the participating students with and without disabilities in each of the program models. The study does show that even though both program models achieve similar results in academic achievement, the ICM model is more cost-effective than the resource room program, due primarily to the changes in staffing patterns as regular and special education programs interface.

Anderson, D. F. (1982). Problems in estimating the costs of special education in urban areas: The New York City case. *Journal of Education Finance, 7*(4), 403-424.

This article discusses the conceptual, empirical, and interpretive problems that are presented when trying to estimate the costs of special education programs. Particular attention is placed on estimating the costs of programs involving "mainstreaming," where students spend a portion

of their day in a regular classroom and the other portion is spent receiving instructional or related special education services outside the regular classroom. This study evaluated the feasibility and cost-effectiveness of delivering special education services through school-based support teams within three urban school districts in New York City.

Anthony, P. (1991). Financing special education in an era of fiscal restraint. ***School Business Affairs,*** **57(9), 16-20.**

This article describes how the absence of substantial federal funding, changes in federal legislation, and changes in the target population of youth with disabilities have had an impact on the cost of providing special education services. The article explains that federal government expenditures are inadequate when it comes to covering costs of educational services for students with disabilities, due to the extension of federal legislation to include children ages birth to three and increasing enrollment rates in special education. Since the major cost burden is placed on state and local educational agencies, these agencies are looking at new cost-effective methods of providing services, such as collaborative programs and the regular education initiative (REI). The article also explains that a dual system exists in education which is expensive, segregative, duplicative of services, and lacking in satisfactory student outcomes. In order to achieve educational quality and cost-effective expenditures in special education, the article proposes the concept of an inclusive system which is accessible to all students and which provides the effective delivery of educational services.

Anthony, P. (1992). Individuals with Disabilities Education Act: The legacy continues. In P. Anthony & S. L. Jacobson (Eds.), ***Helping at-risk students: What are the educational and financial costs?*** **(pp. 1-11). Newbury Park, CA: Corwin Press, Inc.**

This chapter takes each of the guarantees accorded to children with disabilities by IDEA legislation--free appropriate education, individualized education programs, related services, special education services, education

in the least restrictive environment, evaluation and due process, early childhood education, services for 18 to 21-year old students with disabilities, attorney's fees, and disciplinary action--in order to explain what IDEA does and does not mandate in regard to the educational rights of children with disabilities.

Anthony, P. & Strathie, J. (March, 1993). ***Integrating special education, bilingual, and Chapter 1 students into the regular classroom: A cost/benefit analysis.*** **(Paper presented at the annual conference of the American Education Finance Association, Albuquerque, NM.)**

This paper presents the cost/benefit analysis portion of the independent evaluation of Massachusetts Department of Education's grants program, titled "Restructuring for the Integration of All Students." This program is intended to promote the integration of students with disabilities, and bilingual and Chapter 1 students into the regular classroom. The paper provides brief descriptions of each of the seven districts involved in the study, explains the components of the cost/benefit model, reports the data and preliminary findings for these school districts, and describes the adjustments being considered pursuant to application of the cost/benefit model. The authors present cost/benefit data and findings for three baseline years (1987-88, 1988-89, and 1989-90) and the first year of the grants program (1990-91).

Bernstein, C. D., Hartman, W. T., & Marshall, R. S. (1976). Major policy issues in financing special education. ***Journal of Education Finance, 1,*** **299-317.**

This article reviews major policy issues in special education finance based in part on a study, *Financing Educational Services for the Handicapped: An Analysis of Current Research and Practice*, which analyzed and evaluated current research and existing practices related to special education finance at the state level. In addition to reviewing the major policy issues which were identified in the study, the article presents an example of financial analysis and outlines a systematic approach to education planning. The

four major policy issues identified are programming (types of program alternatives offered and number of children served); cost determination (empirical, judgmental, political); level of funding; and funding formulas (unit support, percentage reimbursement, straight sum reimbursement, excess cost formula, weighted formula, and personnel reimbursement). A hypothetical example is provided to demonstrate an analysis that takes all four major issues into consideration. The authors suggest that the conceptual framework outlined in the article allows for analysis of need, formulation of alternatives, and selection of a particular strategy.

Blackman, H. P. (1989). Special education placement: Is it what you know or where you live? ***Exceptional Children,*** **55(5), 459-462.**

The author discusses Danielson and Bellamy's article on federal data on segregated placement of students with disabilities which points out the failings in many situations to live up to the intent of Public Law 94-142 (which clearly sets forth a presumption in favor of regular class placement in regular school buildings for children with disabilities). The need to eliminate geographic and funding restrictions to the placement of students with disabilities in the least restrictive environment is stressed. Realistic but affirmative action and closer scrutiny of demonstration projects that have successfully integrated children with various disabilities into the regular classroom should be the focus of efforts.

Boscardin, M. L. (1987). Local-level special education due process hearings: Cost issues surrounding individual student differences. ***Journal of Education Finance,*** **12, 391-402.**

This article describes a study which used Kaatz's five phases (initial, contact/prevention, preparation, presentation, and follow-up) of impartial due process hearings to demonstrate if any relationships existed between costs and selected variables (i.e., student density, factor, number of previous hearings, and parent wealth). A sample of 11 school districts within four special education administrative units in Chicago was selected, and cost data were obtained from August 1981 to March 1983.

The study found that person hours made a substantial contribution to costs, and that there was a relationship among costs when the cases were grouped by disabling conditions. Based on similarities among costs, the study found that the state board of education, special education administrative units, and school districts developed concise routines for managing impartial due process hearings. Based on these findings, the study suggested that the due process provisions within P.L. 94-142 are no longer completely sensitive to the set of unique characteristics surrounding each case.

Brown, S., Craft-Tripp, M., Gurganus, S., Crossland, C., & MacPhail-Wilcox, B. (1992). Impact of personnel policies on students with disabilities. In P. Anthony & S. L. Jacobson (Eds.), *Helping at-risk students: What are the educational and financial costs?* (pp. 229-252). Newbury Park, CA: Corwin Press, Inc.

This chapter examines the demand and supply of special educators relative to the student populations currently served and those anticipated for the immediate future. Personnel practices such as appraisal and staff development are related to the goal of improving the educational attainment of students needing special education services. Personnel policies and personnel administration have direct and indirect impact on the efficiency and equity of education. Efficiency is defined as the greatest student gains obtained with the least costly resource configurations. Vertical equity is defined as the distribution of resources across all students relative to their needs and the attainment of an equitable distribution of outcomes. The authors found that an increase in demand for special education personnel is based on the number of students served and that future special educators will need an increased level of specialization to serve students better.

Chaikind, S. & Corman, H. (1990). The Impact of Low Birthweight on Special Education Costs. ***Journal of Health Economics, 10,*** **291-311.**

This article describes the impact of low birthweight on special education enrollment and costs. A national sample of 8,000 children aged 6 to 15 was selected to calculate the probability of enrollment in special education if individual, family, and regional variables were held constant. The study found that children weighing less than 2,500 grams at birth are more likely to be enrolled in some type of special education program than children who were of normal weight at birth. As a result, the study predicted that low birthweight would cause an incremental cost of $370.8 million (1989-90) for special education. The study also suggests that if funds were expended on preventive approaches (prenatal screening), low weight births would be reduced and would result in an additional annual savings of $37 million in 1989-90 dollars.

Chaikind, S., Danielson, L. C. & Brauen, M. L. (1993). What do we know about the costs of special education: A selected review. ***Journal of Special Education, 26*****(4), 344-370.**

Focusing on nationally representative data in four different studies, this paper presents measures of the total, average, and excess costs of special education, and suggests how these costs may have changed over time. The paper describes the sample selection, cost methodology, limitations of the methodology and the results from *Patterns in Special Education Service Delivery and Cost, Thirteenth Annual Report to Congress,* and *The Cost of Special Education and Educational Programs for Exceptional Children: Resource Configuration and Costs.* The authors found that over the past 20 years, total costs for special education have remained consistent at more than twice (a ratio of 2.3) the cost of regular education. Average total per pupil special education cost equaled $7,800 in 1989/90. Average special education costs ranged from $1,000 to $30,000 based on the disability classification, with more prevalent disabilities having lower average costs. In the case of educational placements, resource rooms have the lowest average costs while self-contained classrooms and residential schools have higher costs.

Chambers, J. G. & Hartman, W. T. (1983). A resource-cost-based approach to the funding of educational programs: An application to special education. In J. G. Chambers & W. T. Hartman, (Eds.), *Special education policies their history, implementation and finance.* Philadelphia, PA: Temple University Press.

This chapter proposes and examines how the resource-cost-based approach can be used as a common conceptual framework for funding educational services with specific application to the funding of special education services. The resource-cost-based approach addresses differences in educational costs due to varying pupil needs and differences in the costs of educational resources. The authors review state categorical funding mechanisms and previous literature on need-based cost adjustments in education. An empirical application of the model to special education funding is presented and policy implications are discussed.

Chambers, J. G. & Parrish, T. B. (1985). *A study of the costs for services provided to individuals with exceptional needs in California nonpublic, nonsectarian schools.* Mountain View, CA: Associates for Education Finance and Planning, Inc.

This study was conducted as a collaborative research project between the California Association for Private Specialized Education and Services and the Associates for Education Finance and Planning, Inc. The project focused on the clarification of concerns about the nature and extent of costs for special education and related services for individuals with exceptional needs in California nonpuplic, nonsectarian schools. Information about the private special education school sector was provided to assist special education and other related decisionmakers in the improvement of the entire special education service delivery system in California. The study investigated the elements which determine the costs of services provided by nonpublic schools and used a resource cost model to clarify how variations in programmatic considerations impact special education expenditures. The sample consisted of four nonpublic special education schools where case study data on programs, services,

resources, and costs were collected. In addition, surveys were sent to 180 nonpublic schools for the purpose of gathering resource allocation information. Overall findings showed that instructional expenditures per pupil for the four case study sites averaged $10,870 for severely emotionally disturbed students. Data gathered from the surveys showed that per pupil expenditures averaged $12,213. The authors found considerable uniformity in expenditures across the sampled nonpublic schools, but also found flat variations in expenditures still exist within and across all nonpublic schools.

Crowner, T. (1985). A taxonomy of special education finance. *Exceptional Children, 51*(6), 503-508.

This article presents a taxonomy of special education finance to provide readers with a uniform and complete guide to fiscal concepts currently used in the special education finance literature.

Davis, S. (1992). *Report card to the nation on inclusion in education of students with mental retardation.* Arlington, TX: The Association for Retarded Citizens (Arc).

The Arc conducted this study to evaluate the extent to which mentally retarded students are being educated in inclusive settings. Inclusion was defined as the opportunity for all students to participate in the totality of the school experience, which includes integration into the regular classroom in neighborhood schools for both educational and social opportunities. The Arc analyzed state reported data on educational placements (regular class, separate class, resource room, separate school facility, residential facility, and homebound/hospital environment) of students with mental retardation. These data were obtained from the *Fourteenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Act* (1992). The results showed that less than 7% of students with mental retardation were placed in a regular class, 20% were placed in resource rooms, 61% were placed in separate classrooms, and 12% were in private separate facilities or residential facilities. Nationally,

93% of all students with mental retardation were provided with educational programs in a segregated setting. Based on its interpretation of the federal data, the Arc ranked and graded each state based on how extensively they provided an inclusive educational program. Only two states were awarded a grade of "C," 6 states received a "D," and all other states received a grade of "F."

Dempsey, S. & Fuchs, D. (1993). "Flat" versus "weighted" reimbursement formulas: A longitudinal analysis of state-wide special education funding practices. ***Exceptional Children, 59*****(5), 433-443.**

This article examines how state-wide special education practices are associated with flat and weighted reimbursement formulas. From 1979-80 to 1987-88, the relationship between the two funding formulas and student placement was investigated across all local educational agencies in Tennessee. The flat reimbursement formula was used from 1979-80 to 1982-83, while the weighted reimbursement formula was used from 1983-84 to 1987-88. Results showed that the weighted formula, used to distribute special education monies, was associated with a statistically significant decrease in less restrictive placements and a reliable increase in more restrictive placements. A survey of district special education directors suggested that observed changes in the use of special education placements occurred as a result of service needs (80%) rather than monetary incentives (20%).

Finlan, T. G. & Hartman, W. T. (1992). Cost projections for learning disabilities. In P. Anthony & S. L. Jacobson (Eds.), ***Helping at-risk students: What are the educational and financial costs?*** **(pp. 166-188). Newbury Park, CA: Corwin Press, Inc.**

The results of a study undertaken to examine the costs of learning disability programming are presented. National cost estimates for learning disabled special education students were based on projections of the learning disabled population over the next 13 years. Different

estimates for the prevalence of learning disabled students and for inflation rates were used to project costs. The study found that, depending on the assumed prevalence rate for learning disabled, total costs for the 13-year period could vary from $48.7 billion to $303.6 billion in constant dollars. The study reported that the learning disability category is the primary programmatic cause for the rise in special education costs due to the increase in the number of children classified as learning disabled.

Franklin, G. S. & Sparkman, W. E. (1978). The cost effectiveness of two program delivery systems for exceptional children. ***Journal of Education Finance, 3,*** **505-514.**

The authors are interested in determining if cost-effectiveness analysis is an appropriate economic tool for comparing alternative delivery systems in similar exceptional education programs, particularly in the case of educating children with disabilities in the least restrictive environment. The study focuses on the cost-effectiveness of the self-contained, special learning disabilities classroom as opposed to the regular classroom with a resource room or learning center pull-out. For each of the delivery systems, program input is measured in terms of current costs, and output is determined by academic gain. The results of the analysis demonstrate that self-contained classes are more expensive to operate than resource rooms, and that neither of these delivery systems produce a significant difference in the academic achievements of participating students.

Gartner, A. & Lipsky, D. K. (1987). Beyond special education: Toward a quality system for all students. ***Harvard Educational Review, 57*****(4), 367-395.**

The authors of this article argue that the current special education system is inadequate since it is not integrated, and therefore a new type of unitary system which incorporates quality education for all students should be created. The authors examine developments of the past decade, analyze the current failures, and present recommendations that will improve future special education programs. The article describes the

background of Public Law 94-142, and discusses those areas where the law has not achieved its original intent. Those areas are referral and assessment procedures, placement options, educational programs, least restrictive environment, and parental involvement. The authors describe an alternative delivery system consisting of integration for children with mild and moderate disabilities.

Guthrie, J. W. (1983). United States school finance policy, 1955-1980. ***Educational Evaluation and Policy Analysis, 5*****(2), 207-230.**

This article describes 25 years of reform efforts to obtain equity and efficiency in school finance. Tensions resulting from conflicting social values are described along with the effects of various reform efforts. The author covers issues such as technocracy, testing, fiscal containment, liberty, private education, and local control (i.e., community control, alternative schools, administrative decentralization, and school site management). The article concludes with speculation on issues such as taxation, judicial reform strategy, and competing social values which may cause conflict in school finance for the 1980s.

Hagerty, G. J. & Abramson, M. (1987). Impediments to implementing national policy change for mildly handicapped students. ***Exceptional Children, 53*****(4), 315-323.**

This article describes the current political policy environment and the impact of that environment on efforts to refine the system for serving mildly disabled students. The problems associated with refining the system to serve mildly disabled students are identified as the growth and identification of population, cost issues, and adequacy of programs. The authors explore selected issues to discover the impediments confronting policy change in serving mildly disabled students. Existing national and state-wide databases which do not provide comprehensive data on instructional effectiveness, appropriateness, and availability of services are noted to be impediments to policy change in special education. Other impediments included the existing categorical program and funding

structures; the categorical preparation of personnel; and the already established dual service delivery system. The authors recommend that revisions be made to the structure of the current education system in order to serve mildly disabled students.

Hales, R. M. & Carlson, L. B. (1992). *Issues and trends in special education*. Lexington, KY: University of Kentucky, Federal Resource Center for Special Education.

This report outlines the predicted trends impacting special education over the next 20 years. The Federal Resource Center uses a modified Delphi process to get reactions to almost 200 predictive statements from knowledgeable special education federal administrators, state administrators, local administrators, technical assistance providers, members of professional organizations, university professors, and selected private practitioners. Overall the report predicts that (a) a critical shortage of special education personnel at all levels will result in paraprofessionals and regular educators having a greater role in the provision of services to children with disabilities; (b) a drain on resources will result from the continued expansion in the types, quantities, and varieties of related services, and from the ambiguity among medical, related services, and instructional services; (c) outcomes for students with more severe disabilities will address functional life skills, and high school diplomas or certificates of completion will be awarded to students with disabilities who satisfactorily complete their IEP goals; and (d) advances in technology will substantially reduce the functional limitations of persons with disabilities. In addition, trends were noted for specific categories such as assessment, curriculum and instruction, family involvement, finance, interagency coordination, least restrictive environment, personnel, policy and governance, reform and restructuring, research, service monitoring, societal values, technology, and transition from school to work.

Hartman, W. T. (1992). State funding models for special education. *Remedial and Special Education,* **13(6), 47-58.**

This article provides a conceptual and technical framework for examining alternative approaches for funding special education. The author identifies four fundamental policy issues to be addressed in order to determine the approach and features of a state's special education funding formula. The policy issues identified are: who is to be served, what programs and services are to be provided, what resources are appropriate, and how costs are to be shared between local and state agencies. In order to assess the impact of funding formulas, the author also suggests evaluating the formulas based on the following criteria: equity, educational programming, rationality and simplicity, comprehensiveness, flexibility and responsiveness, stability, accountability and cost-effectiveness, efficiency, and adequacy of funding levels. Also presented in the article are a taxonomy of alternative funding approaches (flat grant, unit, personnel, percentage, excess cost, weighted student, and resource cost model) and descriptions of the incentives and disincentives associated with each.

Hartman, W. T. (1991). Special education funding in Pennsylvania: Problems and alternatives. *Journal of Education Finance, 16,* **360-387.**

This article is based on an intensive study of the system for financing special education in Pennsylvania. The author describes Pennsylvania's current special education funding systems as facing severe problems due to existing program standards which do not have limited funding responsibility for the Commonwealth and school districts; appropriations which are not based on program requirements but are established as an incremental increase over prior year amounts; current funding procedures which permit school districts and intermediate units to obligate the Commonwealth for special education subsidies in excess of available revenues in a given year; and the current funding formulas which are excessively complex, inequitable, involve questionable procedures, and are poorly understood by policymakers, legislators, and school personnel. Four alternatives to the current funding system for special education are

developed and evaluated: modifications of the present approach, supplemental/replacement costs, and equalized distribution system for total special education costs, and equalized distribution for excess costs only. For each alternative, the basic tenets of the approach are specified, microcomputer simulations of its possible fiscal impact are projected, and the advantages and disadvantages are compared to the present system.

Hartman, W. T. (1990). Supplemental/replacement: An alternative approach to excess costs. ***Exceptional Children, 56*****(5), 450-459.**

This article defines excess cost to be the differential between special and regular education costs, which serves as a prominent funding principle used at the state and federal government levels. The conceptual and practical difficulties associated with this method consist of cost increases in regular education which reduce the excess cost amount eligible for funding; procedures used to derive student counts in mainstreamed and special classes; and the cost items districts are allowed to include as expenditures. The author proposes a reconceptualization of excess cost which is based on programs and services rather than a cost-per-pupil differential. The new supplemental/replacement approach is defined as the difference between the cost of the special education program and the regular education program it replaces.

Hartman, W. T. (1983). Projecting special education costs. In J. G. Chambers & W. T. Hartman, (Eds.), ***Special education policies: Their history, implementation and finance.*** **Philadelphia, PA: Temple University Press.**

This article examines how current and future special education costs for the nation can be projected using a Special Education Planning Model, which utilizes a resource-cost-based methodology. Twenty-eight states were sampled to derive 1980/81 national cost projections for serving all school-aged disabled children by type of disability, and by type of instructional program. Estimated cost projections showed that an average of $9 billion would be required in 1980 to provide an appropriate

education to youth with disabilities. This finding demonstrated a decrease in the average cost of serving disabled students from 1976/77 to 1980/81 based on the following: the majority of new students would be mildly disabled and as a result would be assigned to low cost programs, representing a shift of some students to least restrictive programs, and a greater use of additional services. The cost projections from this study indicated that placement of students in the least restrictive environment, when appropriate to the students' needs, would be cost-efficient. Limitations of the cost projections derived from the Special Education Planning Model result from the underlying assumptions for each of the variables; the cost projections for related services that are less reliable than the cost projections for instructional programs; the fact that the results represent cost estimates, not actual costs, and total, rather than the excess costs of special education.

Hartman, W. T. (1980). Policy effects of special education funding formulas. ***Journal of Education Finance,*** **6, 135-159.**

This article attempts to clarify the effects and motivations caused by the magnitude and distribution of the patterns of funding for special education programs. The author focuses on the programmatic and management considerations of the principal special education funding approaches. The following four topics are discussed: the relationships between special education programs and costs, the primary funding formulas used for special education, policy issues affected by the funding formulas, and the potential incentives and disincentives of the various funding formulas. In addition, the author examines the effects of the approach used to allocate federal funds under P.L. 94-142.

Kakalik, J. S., Brewer, G. D., Dougharty, L. A., Fleischauer, P. D., & Genensky, S. M. (1973). *Services for handicapped youth: A program overview* (Report R-1220-HEW-Abridged). Santa Monica, CA: Rand Corporation.

This abridged report provides a descriptive overview of a 22-month cross-agency evaluation of federal and state programs providing assistance to youth with disabilities during the period from February 1972 through December 1973. The primary topics discussed are the number of youth with disabilities being served, the structure and functioning of the service system, the current federal and state programs providing services, estimates of expenditures and resources associated with various groups of youth with disabilities, and the identification of major problems (inequities, gaps in services, insufficient knowledge of benefits and effectiveness of programs, inadequate control of services, and insufficient resources) within the service system. The authors group federal and state programs into five types of agencies which administer services (health, welfare, education, vocational rehabilitation, and mental health and retardation), and identify 15 types of services which agencies provide or fail to provide to youth with disabilities.

Kakalik, J. S., Furry, W. S., Thomas, M. A., & Carney, M. F. (1981). *The cost of special education: A Rand note* (Report No. N-1792-ED). Santa Monica, CA: Rand Corporation.

This study provided information on the cost of various types of special education and related services for children with disabilities. The following questions were addressed: what are the costs by age, type of disability, and type of educational placement; what are the costs for assessment and placement, instructional services, related services, and administrative services; and what are the added costs of special education above the cost of regular education? Data were collected from a nationally representative sample of localities of various sizes for the 1977/78 school year. Using a stratified probabilistic sample of 46 districts in 14 states, the study analyzed the total cost for each service (e.g., screening, IEP development, transportation, instruction, etc.) provided to youth with disabilities, and

estimated the cost per child by age level, disability, and educational placement. All cost estimates were based on groups of students with similar characteristics (age level and disability). Findings showed that the total average cost per pupil in special education was $3,577 in 1977/78. That is 2.17 times greater than the cost per pupil in regular education. The added cost was estimated at $1,927. Variations in total cost per pupil existed within each disability category depending on the educational placement and variations also existed within each educational placement depending on the disability.

Kirp, D. L. (1974). The great sorting machine. ***Phi Delta Kappan, 55*****(8), 521-525.**

This article provides an overview of sorting systems, such as tracking and special education placements, and also outlines the problems associated with these systems. Recommendations are made to create a system which does not use restrictive categories, but instead uses an approach that is varied and flexible depending on the individual child. It concludes by recommending that the one way to create such a system is to make changes in the instructional approach (i.e., placing special education students in regular classes).

Levin, H. M. (1983). ***Cost-effectiveness: A primer.*** **Beverly Hills, CA: SAGE Publications, Inc.**

Various types of cost analysis (i.e., cost-effectiveness, cost-benefit, cost-utility, and cost feasibility) that can be used in the evaluation of education are described. Information is provided on establishing an analytical framework; the concept, measurement, and analysis of costs and cost ingredients; the benefits, effects, and utility of cost analysis; and the use of cost evaluations.

Lewis, D. R., Bruininks, R. H., & Thurlow, M. L. (1990). Cost analysis of special schools for students with mental retardation. ***Journal of Special Education, 24*****(1), 33-50.**

This article presents an example of the procedures necessary to collect and report cost information. A resource components cost approach is used to provide benchmark cost estimates and resource use estimates for two urban public schools that serve students with moderate and severe mental retardation. The authors demonstrate that the resource components approach is a valuable tool for estimating costs due to its comprehensiveness and accuracy. The authors propose that if administrators and policy makers use an appropriately framed model, it will assist in their evaluation of resource usage in current programs and will assist in the simulation of the resource consequences of different policy and administrative alternatives.

Lewis, D. R., Bruininks, R. H., & Thurlow, M. (1989). Cost analysis for district-level special education planning, budgeting, and administrating. ***Journal of Education Finance, 14*****(4), 466-483.**

Due to increasing costs in special education, issues of accountability, cost containment, and program efficiency have become a concern to policy makers. The authors explain that district policymakers and administrators need reliable and complete cost information for planning and assessing their educational programs and services. In this article, the authors apply a resource component approach to data collected from a large Minnesota suburban school district as part of a larger, federally supported, follow-up study from the 1983-84 fiscal period. Based on the results of this study, the authors propose that resource cost methodology serves as a valuable tool for planning programs; evaluating services; and considering alternative actions to increase the efficiency, appropriateness, and effectiveness of services.

Lewis, D. R., Bruininks, R. H., & Thurlow, M. L. (1991). Efficiency considerations in delivering special education services to persons with severe mental retardation. ***Mental Retardation, 29*****(3), 129-137.**

This article discusses the use of formal benefit-cost and effectiveness-cost analysis for determining whether outcomes of particular special education services are being achieved in the most efficient manner. The authors focus on measuring as many of the costs and outcomes, in both monetary and other terms, for two specialized schools serving youth with severe mental retardation. The results indicate that with appropriately identified, measured, and valued costs and benefits, it is possible to employ both forms of analysis to assess the relative efficiency of special education services.

Lewis, D. R., Bruininks, R. H., Thurlow, M., & McGrew, K. (1988). Using benefit-cost analysis in special education. ***Exceptional Children, 55*****(3), 203-214.**

Cost and outcome data collected for 28 mildly retarded high school graduates were used to illustrate the usefulness of formal benefit-cost analysis for determining whether the monetary outcomes of particular special education services are worth their resource costs. The data were compared with a number of hypothetical comparison groups presumed to be without the benefit of special education services. Comparison of the two groups was based on the cost of all resources employed in the delivery of both regular and special education services and on the postschool outcomes (various rates of institutionalization, school dropout, and unemployment). Results indicate that with appropriately identified, measured, and valued costs and benefits, a formal benefit-cost analysis framework can be employed to assess the efficiency of special education services.

Lipsky, D. K. & Gartner, A. (1987). Capable of achievement and worthy of respect: Education for handicapped students as if they were full-fledged human beings. ***Exceptional Children, 54,*** **69-74.**

This article identifies the current limitations of service delivery systems in the context of existing attitudes of regular and special educators. Pedagogic practices are described as focusing on remediation and separation, which makes funding easily available for such remediation and "special programs." Attitudes in school practice are described as being magnified by prejudice and aversion. The authors identify characteristics that would improve the current service delivery system: (1) a system where every child would be considered able to learn in most environments; (2) a system which incorporates characteristics of effective schools (e.g., high expectations, positive school climate) that would apply to all students; and (3) operation under a unified school system. The authors suggest that rather than continuing efforts to perfect a separate, segregated system, attention must be placed on making general education flexible and responsive to educating the full range of students.

McCarthy, E. F. & Sage, D. D. (1982). State special education fiscal policy: The quest for equity. ***Exceptional Children, 48*****(5), 414-419.**

This article provides a historical view of special education funding in relation to regular education, and outlines critical factors of equity associated with special education funding. The six critical factors that shape policy considerations are population, needs, service delivery, governance structure, resources, and systems costs. Based on these factors, the authors conducted a field study of 19 key individuals who determine or influence the state special education fiscal policy process in New York. Questions were asked about the relevance and exhaustiveness of these factors; the relative importance of each factor; the diversity among role groups as to perceptions of the factors; and perceptions of respondents regarding past, present, and proposed New York state fiscal policies in addressing these factors. Respondents agreed with the importance of the six factors for flexible programming; their perspectives were influenced by regional, personal, political and economic

characteristics. Respondents indicated that fiscal neutrality and least restrictive environment were inextricably related. They rated variations in need and resources as the two factors highest in relative importance. In addition, they suggested additional factors to include (e.g., accountability, controllability, simplicity). However, respondents indicated that the major factor which determines other considerations is the amount of money available. The article concludes with a list of policy considerations that seem critical to flexible programming.

McLaughlin, M. J. & Owings, M. F. (1993). Relationships among states' fiscal and demographic data and the implementation of P.L. 94-142. *Exceptional Children, 59*(3), 247-261.

This study was based on the premise that fiscal and demographic characteristics of individual states may influence some of the variation in the implementation of federal special education policy at the state level. National data sources were used to determine to what extent differences in special education identification and integration rates were associated with specific states' fiscal and demographic characteristics, and to demonstrate the feasibility of using existing national databases in special education policy research. National data were identified for the categories of learning disabled, seriously emotionally disturbed and multiply disabled for the 1976/77, 1980/81 and 1983/84 school years. The study found that the percentage of rural, school-age population and the percentage of school-age children living in poverty were two state-level demographic characteristics that influenced identification rates. Identification rates were also influenced by state-level per-capita income and per-pupil expenditures. States with greater wealth (higher per-capita income) tended to have well-established special education systems that allowed for the identification of more students with learning and emotional disabilities, and also tended to have more expensive, segregated placements to serve these students.

McLaughlin, M. J. & Warren, S. H. (1992). *Issues & options in restructuring schools and special education programs.* College Park, MD: Institute for the Study of Exceptional Children, University of Maryland.

The Center for Policy Options in Special Education presents a comprehensive overview of the position of special education within the context of school restructuring. The report describes issues related to restructuring local schools and how that restructuring can involve students with disabilities and the special education programs that serve them. The issues and options pertaining to the restructuring of schools are summarized into five critical areas: the development of a clear vision and mission for education that includes all students; the establishment of a system of accountability for all educational programs; the creation of an organization that supports the mission of restructuring; a call for change in what is taught by schools and how it is taught; and additional support for staff development and staff renewal.

Marriner, L. S. (1977). The cost of educating handicapped pupils in New York City. *Journal of Education Finance, 3,* 82-97.

This paper describes how a 1975 study derived detailed cost information on specific educational programs for students with disabilities in New York City urban school districts. The study found the total cost per disabled pupil to range from $4,243 for an educable mentally retarded pupil in full-time classes to $14,000 for a pupil in the Center for Multiply Handicapped. The total average cost per disabled pupil was $5,897, compared to an average of $2,294 per nondisabled pupil. The author examines the study's cost information in light of findings within the areas of mainstreaming, adequacy of state aid, the estimated cost of serving "unserved children," and replication of the data from the National Education Finance Project.

Miller, C. J., Stark, S. A., & Picus, L. (1993) Maintaining quality special education programs. ***Thrust for Education Leadership,*** **22(4), 38-43.**

The authors report that California school districts are considering assuming responsibility from county offices of education, which provide special education programs for students with severe disabilities. The school districts would provide the services rather than contract the services from the county offices of education due to the excess cost chargebacks they currently pay to the county offices of education. The authors also report that the state of California not only allows but encourages the transfer of services through Assembly Bill 4074. Assembly Bill 4074 provides a financial incentive to transfer programs between school districts and county offices of education which do not result in an increased cost to the state. The authors argue that even though the cost to the state may remain constant, costs increase at the local level. This was revealed in a statewide study on program transfers. Recommendations made by the authors include cutting or containing costs, and making an existing program more cost effective before considering a student program transfer.

Moore, M. T., Strang, E. W., Schwartz, M., & Braddock, M. (1988). ***Patterns in special education services delivery and cost.*** **Contract Number 300-84-0257. Washington, DC: Decision Resources Corporation.**

This study obtained comprehensive, nationally representative per pupil expenditures for special education programs (i.e., preschool, resource, self-contained, residential, home/hospital), supplemental services, and district and school level administration support services. The study determined how these programs and services are provided directly by school districts and by other state and local agencies, cooperatives, private schools, and through purchased service arrangements. A sample of 60 school districts in 18 states was selected for the 1985/86 school year based on a probability proportional to enrollment. An ingredients or resource cost approach was used to gather resource,

price and pupil enrollment data for special and regular education programs and services. Results of the study showed that overall per pupil expenditures for special education students were 2.3 times more than per pupil expenditures for regular students. Average total cost for a disabled student was $6,335 versus $2,780 for a regular student. Overall expenditures by program showed that more intense programs had higher per pupil expenditures. Supplemental service expenditures were affected by caseloads, the mix of professionals and aides, and transportation. Other findings showed that private, and state and local agencies generally have higher expenses; cooperatives and purchased service agreements were not uniformly expensive; more severe impairments were likely to be served by outside providers; and that external providers were used by districts to achieve economies of scales for low prevalence populations.

Moore, M. T., Walker, L. J., & Holland, R. P. (1982). *Finetuning special education finance: A guide for state policymakers.* Princeton, NJ: Educational Testing Service, Education Policy Research Institute.

This guide assembles information on state experiences and research in the areas of student eligibility, appropriate services, costs, revenue sources, and funding formulas for special education. Chapter 1 discusses the importance of defining student eligibility in order to determine which children will be provided special education and which services will be available. Chapter 2 discusses what policies (i.e., reimbursement, assessment, class size, and length of school year) are considered in establishing a range of appropriate services. In addition, the chapter provides descriptions of state definitions and interpretations of special education and related services. In Chapter 3, the authors discuss how special education costs are determined by various program arrangements, by local prices for goods and services, and by the revenues a district has, and chooses to spend, for special education. This chapter also discusses the factors influencing special education costs. Special education costs are examined in the context of what they should be, what they currently are, what they will be under full implementation, and what they will be if different policies are adopted. Chapter 4 discusses various patterns in revenue sources for special educators across states and the issues related

to the structure of state support for special education. The funding formulas used by states, criteria for assessing funding formulas, and major strengths and weaknesses inherent in different funding formulas are discussed in Chapter 5.

National Association of State Boards of Education. (1992). *Winners all: A call for inclusive schools.* Alexandria, VA: Author.

This two-year study was conducted to evaluate the position of special education within the current education reform movement which focuses on standards, outcomes, and individualized instruction. It was based on the premise that all children can and will learn, and that dual special and regular education bureaucracies exist, which hinder collaboration between special and regular educators. The report calls for organizing special and regular education into an inclusive system which strives to produce better outcomes for all students. In order to create an inclusive system, state boards of education must create a new belief system and vision of education that includes all students; must foster and encourage collaborative partnerships and joint training programs between general and special educators; and must sever the link between funding, placement, and disability labels.

Odden, A. (1992, February). School finance in the 1990's. *Phi Delta Kappan,* pp. 455-461.

This article outlines the key issues in general school finance during the 1970s, 1980s, and 1990s. For the 1990s, the major issues of concern include the linkage between the basic structure of school finance and state and national goals for education; the use of site-based management and site-based budgeting; teacher compensation; linkage of accountability systems to student performance; public school choice; and, preschool education, extended day kindergarten programs, and non-educational children's services. In order to tackle these issues in the 1990s, the author notes that the traditional notion of equity in school finance needs to change. Changes should include not only the use of district-level

expenditures and resources as indicators of equity, but also the use of curriculum and instructional resources as indicators. The author also recommends the development of data on finance and curriculum and instruction at the school-level. Finally, variations in student achievement should be assessed so that they may be linked to variations in the different levels and use of both fiscal and programmatic resources.

Odden, A. (1991). *Towards the 21st century: School finance.* Working paper, University of Southern California, Center for Research in Education Finance.

This paper illustrates how school-based finance, rather than district-level finance, is important in achieving the national goals for the educational achievement of all children. The author proposes implementation of a school-based finance structure which has a common high level, per pupil foundation expenditure level for all schools. The expenditure level would be adjusted by state and regional cost-of-education indices and also to reflect the cost of programs providing additional services to low income, disabled, limited English proficient, and low achieving students. The article also defines additional characteristics of a school-based finance structure which include an option for schools to spend above the foundation level that would be linked to income tax; real site-based management and budgeting; a new teacher compensation structure; school-based performance awards to faculties in schools meeting or exceeding student performance awards; and school-linked social services.

Odden, A. & Wohlstetter, P. (1992). The role of agenda setting in the politics of school finance: 1970-1990. *Educational Policy, 6*(4), 355-376.

This article uses Cobb and Elder's theory of agenda setting in the public policy arena to assess the politics and impacts of school finance during the 1970s and 1980s. The theory identifies four triggering mechanisms which bring issues to the forefront of a formal policy agenda.

These are unanticipated human events, technological changes, ecological changes, and biases in the distribution of resources. Policy initiators respond to these triggering mechanisms in order to provide leadership. These policy initiators are identified as "exploiters, circumstantial reactors, do-gooders and readjusters." The article shows how the various triggering mechanisms and policy initiators functioned to affect public school finance policy over the past two decades and assesses impacts of the new school finance structures that were created. The results show that the array of policy initiators has continually expanded during the past 20 years, from educators to governors, legislators, the courts, and the business community. The results also show a wide range of new school finance policies, the complexity of which is partially caused by the various triggering mechanisms and motivations of the policy initiators.

Osher, T., George, J., & Gonzalez, P. (1991). ***A resource paper on the relative cost of special education*** **(Contract No. 300-87-0155). Alexandria, VA: National Association of State Directors of Special Education, Inc.**

This paper reviews the following three studies which estimated costs for special education and services: *Twelfth Annual Report to Congress, Special Education in America's Cities by the Council of the Great City Schools,* and *Patterns in Special Education Service Delivery and Costs*. For each study, an examination of the special education costs and the methodology used are presented. All three studies were found to have different conclusions due to the data sources used, the methods for collecting data, and the different strategies used to derive average per pupil special and regular education costs. The costs and ratios presented in the three studies are useful for projecting expenditures for large numbers of students, but should not be used to associate costs to individual students. The use of different delivery systems results in wide cost variations. In addition, this paper argues for the use of "total cost," the cost of providing special and regular education, since this cost is greater than excess cost. The paper shows that the Patterns in Special Education Service Delivery and Costs study appears to yield the most accurate cost estimates and ratios. In addition, it states that the study's cost ratios can be utilized by school

districts since the ratios are provided by program types which are similar to districts' patterns of student placement.

Pyecha, J. N., Kuligowski, B. A., & Wiegerink, R. (1984). ***Phase I Report: A policy-oriented study of special education's service delivery system (Volume IV: An exploration of issues regarding special education costs and funding trends and their relation to the provision of special education and related services)*** **(RTI Report No. RTI/2706-06-01FR). North Carolina: Research Triangle Park.**

This report describes the procedures and outcomes used to identify how costs and funding trends impact the provision of special education and related services to children with disabilities. The study's primary focus was on how school districts facing funding constraints are managing their programs to meet the challenge of providing a free and appropriate program to their special education students. A purposive sample of eight school districts, representing either a single school district or a cluster of school districts operating as a cooperative unit, was selected. Overall results showed that local-level cost accounting and reporting procedures are driven by federal and state reporting requirements; the identification and placement of disabled students is affected by federal and state funding approaches, formulae, and special education policies; funding policies create incentives and disincentives when local school districts are competing for local funds; student-teacher ratios, teacher-student contact hours, and expenditure patterns are affected by management strategies trying to stay within designated funding levels; the level and nature of interagency cooperation are dictated by state policies, local access, characteristics of constituents, and program and agency directors; and interdependency is apparent among special education, compensatory education, other categorical programs, and regular education.

Raphael, E. S., Singer, J. D., & Walker, D. K. (1985). Per pupil expenditures on special education in three metropolitan school districts. ***Journal of Education Finance, 11,*** **69-88.**

This paper describes a substudy, within the Collaborative Study of Children with Special Needs, which focuses on expenditures for the education of children with disabilities in grades kindergarten through six. A stratified random sample of 573 children classified as learning disabled or speech impaired, emotionally and behaviorally or mentally impaired, and physically, sensory or health impaired, was selected from three urban school districts. For each child, data were collected on educational and related services received. Indirect costs were derived from district budgets, and data were also obtained from the Rand study *The Cost of Special Education*. From the collected data, an average per pupil expenditure for each child was derived using a resource allocation model. Results from this substudy were consistent with earlier studies: a 2-to-1 ratio of expenditures existed between special and regular education students in the three sites. This substudy also suggests that special education average per pupil expenditures are affected by the mix of children, the cost of inputs, and the educational resources provided to the children.

Sailor, W. (1991). Special education in the restructured school. ***Remedial and Special Education, 12*****(6), 8-22.**

This article examines the basis for a shared educational agenda in school reform by considering the dominant aspects of special education reform in light of the current school restructuring movement in regular education. Current special education reform trends are identified as the movement to integrate students with severe disabilities and those with low-incidence disabilities into general education schools and classrooms, and the effort to keep students with mild and moderate disabilities in the general classroom as an alternative to pull-out programs. The article describes regular education reform efforts as shifting in a direction of systematic reorganization of school governance structure, policy, and resource utilization. The article identifies the following strategies and

models used for school restructuring in regular education: school organizational autonomy; site-based management and shared decisionmaking; full infusion and coordination of all available resources; community participation in the life of the school; community involvement in secondary education; and comprehensive local schools. The author suggests that sufficient parallels exist between regular and special education reform agendas to form a shared educational agenda for all students.

Shields, P. M., Jay, E. D., Parrish, T. B., & Padilla, C. (1989). ***Alternative programs and strategies for serving students with learning disabilities and other learning problems (final report).*** **Menlo Park, CA: SRI International.**

This study reports the results of a legislatively mandated study in California of alternative district and school-level programs and strategies for serving students with learning disabilities or other learning problems. The study attempted to identify effective strategies for reducing the number of students inappropriately identified as learning disabled and for further integrating and improving educational services to all students with learning problems. The effectiveness and related costs of alternative pre-referral strategies, assessment procedures, and direct instructional approaches were examined. The following alternative strategies were discussed: multidisciplinary problem-solving or student study teams for pre-referral, and the consultation and the Strategies Intervention approaches to direct instruction. The authors found that student study teams, although costly, reduced the number of routine and inappropriate referrals, improved the appropriateness of services received by students, improved school communication and coordination, and provided support to regular teachers working with students with learning problems. In the area of direct instructional services, the study found that schools with integrated programs are more likely to promote greater communication and cooperation among staff resulting in the establishment of a broader range of service delivery options. Assessment activities accounted for more than one-fifth of the total cost of providing the resource program,

raising the issue of cost in relation to the benefits of assessment procedures.

Singer, J. D. & Raphael, E. S. (1988). ***Per pupil expenditures for special education: To whom are limited resources provided?*** **(Grant No. G008630147). Cambridge, MA: Harvard University.**

This study obtained per pupil expenditures and examined how variations in expenditures result from the mix of students and their educational needs; different practices with respect to identification, placement, and levels of services provided; and differing resource prices. Focusing on the child as the unit of analysis, this study used a resource cost methodology to derive per pupil expenditures for a stratified random sample of 571 special education students in three metropolitan areas for the 1982/83 school year. Data were collected using microdata on educational and related services received by each student and were derived from district budgets. Data from the Kakalik et. al. study (1981) was also used. The authors found that total per pupil expenditures for special education was $7,577, twice that for regular education. They also found high cost variance in instructional and related services among children in the same primary disability and placement group. Even though expenditures for related services differed by disability, variations also occurred among children within the same disability category. The authors found no evidence to associate this variation with placement, functional status, background characteristics, or study site differences. Additional findings from the study showed that least restrictive environments were the least expensive. For example, regular class expenditures equaled $3,847, a regular class with pull-out was estimated at $5,229, and a special class in a regular school with or without pullout ranged from $8,649 to $8,659. Finally, there was no evidence of bias in relation to race, socioeconomic status, or gender in the level of resources for instruction and related services provided to students.

Slobojan, A. (1987). Descriptive cost analysis of special education. *Journal of Education Finance, 13*(1), 99-106.

This article presents a descriptive cost analysis of special education programs and services for Frederick County Public Schools in Maryland. The cost analysis utilized the Larson IPSEC Model, which identifies public special education costs. The five cost components (discrete, transportation, overhead, fixed assets, and related services) that comprise the Larson IPSEC Model were examined for diagnostic/prescriptive, itinerant, resource, self-contained, and separate school delivery systems. The author demonstrates that with modifications, the Larson model proves to be a valuable tool for determining per pupil costs of special education programs and services, and lends itself to descriptive and comparative analysis of special education programs and services.

Stultz, J. (1976). The incidence of educational needs and the cost of meeting these needs in the United States in 1980. *Journal of Education Finance, 1,* 361-72.

This article discusses the use of the cost differential approach for weighting pupils in light of declining public school enrollments in the 1970s. The study uses the cost differential approach developed by the National Education Finance Project (NEFP) and data from state and federal educational agencies to determine the incidence of educational needs, and to project 1980 expenditures required to fund programs to meet these needs, in each in state.

Thomas, M. A. (1973). Finance: Without which there is no special education. *Exceptional Children, 39*(6), 475-480.

This article describes the funding of education for youth with disabilities as a dual dilemma of adequacy and equity. The author cites that the reason most often given for unequal access to educational opportunity for the exceptional child is the higher cost of education for such a child. State fiscal support procedures are examined within these

six general categories: unit, weight, percentage, personnel, straight sum, and excess cost. For each category the author provides a definition, identifies advantages and limitations, and provides examples of states using each of the fiscal support procedures. The author also identifies nine basic fiscal questions that need to be addressed in order to provide every child equal access to an optimum education. In conclusion, the author identifies the most prominent sources of support that have been solicited and identifies alternative approaches that have been offered for providing an optimum education for all children.

U. S. Department of Education, Special Education Programs (1992). ***To assure the free appropriate public education of all children with disabilities fourteenth annual report to Congress on the implementation of the Individuals with Disabilities Education Act.*** **Washington, DC: Author.**

This report describes state activities and provides state data on the progress made to implement the requirements mandated by the Individuals with Disabilities Education Act in 1990-91. National statistics are provided on the number of children receiving special education and related services, the number of children with disabilities receiving special education in various settings, the exiting status of special education students, and the number of school personnel available and needed to provide such services. It also includes information on early childhood activities, the transition of youth with disabilities from secondary school to early adulthood, and describes OSEP's administrative and programmatic efforts to assist state and local educational agencies in educating all children and youth with disabilities. Findings from the state-reported data are: a 2.8 percent (4,817,503) increase in the number of children and youth being served in the 1990/91 school year; an increase in the proportion of students with specific learning disabilities; a decrease in the proportion of students with speech or language impairments and mental retardation; a larger proportion of students with low prevalence impairments (e.g., learning disabilities, hearing impairments) being served in regular schools in 1989/90 than in 1977-78; and excess costs for all children with disabilities of $4,313.

Verstegen, D. A. (1991). *School finance at a glance.* Denver, CO: Education Commission of the States.

This report provides a comprehensive review of state finance provisions used in the 1989/90 school year to raise and distribute education dollars. Descriptions of the state finance structures currently used are provided for all fifty states. States usually reported using one of the following approaches to finance education: foundation programs, district power equalizing programs, two-tiered financing, or full state funding. State-by-state information is also provided on what special characteristics (i.e., density or sparsity of the school district, declining enrollment or growth in the school population) are considered when funds are allocated to school districts. Also provided in the report is a review of state provisions for capital outlay, debt services, and transportation. In addition, this report outlines which special student populations (special education, compensatory education, bilingual education, gifted and talented education, and different grade levels) are considered in each state's financing formula in order to accommodate differences among school districts. The author identifies the approaches used to allocate revenues for special education as weighting schemes, excess cost formula, flat grants, or a combination of these approaches.

Wang, M. C. & Baker, E. T. (1985-86). Mainstreaming programs: design features and effects. *Journal of Special Education, 19*(4), 503-521.

This article describes how meta-analysis is used to synthesize findings from 11 selected studies dealing with the effects of mainstreaming. The primary goals of the study were to review and analyze the design features and efficacy of mainstreaming as an educational approach to serving disabled youth. The authors reported that the results from the 11 empirical studies provide support for the effectiveness of mainstreaming in improving performance, and contributing to positive attitudinal and process outcomes for youth with disabilities. In addition, selected features of educational approaches common to mainstreaming for addressing student differences, showed positive outcomes.

Wang, M. C., Reynolds, M. C., & Walberg, H. J. (1989). Who benefits from segregation and murky water? *Phi Delta Kappan, 71*(1), 64-67.

This article argues that students with disabilities should not be segregated from their classmates. The authors cite the lack of reliability within current classification systems and the fact that segregated programs rarely provide superior services or results for disabled youth. The authors outline the four problems found in the current system of classification for special education. The lack of reliability is demonstrated by the fact that about 80% of all school children can be classified as learning disabled by one or more of the methods currently used in schools. Second, no distinctive instructional benefits are demonstrated by classifying students as mildly disabled. Third, factors such as economics, program availability, and race, which have no valid implications for instruction, have entered into classification decisions. Finally, the chances of disabled students returning to a regular classroom after they are segregated are small. In order to prevent needless segregation and classification systems, the article advocates integration and collaboration. Reform would consist of strengthening educational outcomes for all students by providing instruction in a regular classroom, collaborating among special and regular educators to create more effective schools without segregation, and endorsing school-site management and teacher empowerment.

Weintraub, F. J. & Higgins, S. T. (1982). *Planning state fiscal policies.* Reston, VA: The Council for Exceptional Children.

The authors outline local variables which affect the cost of educating children with disabilities and which should be reflected in the state finance system. They outline three phases and fiscal responses in the development of public policy. Critical factors to be considered in decisionmaking are reviewed, including the fiscal resources from which education can be supported, the needs of the population, and distribution factors. The authors identify and describe eight policy factors and associated local variables that should be considered when establishing a comprehensive system of resource allocation for special education. Local

variables are described within the context of these eight policy factors: population, individual educational needs, service delivery systems, governance structures, system costs, resources, timing and predictability, and accountability. To summarize the interrelation of the policy factors and variables, the authors outline four basic principles that influence the cost of special education and related services.

Will, M. (1986). Educating students with learning problems: A shared responsibility. *Exceptional Children,* **52, 411-416.**

This article addresses the issue of providing the best and most effective education possible to children and youth with learning problems. Although legislation for federally-funded compensatory and remedial education programs ensured success, special education programs still receive mixed reviews. The article notes the failure to meet the educational needs of students through pull-out approaches; the exclusion of students who are in need of educational support but do not meet eligibility and screening requirements; the tendency to equate poor performance with a disability; the focus placed on issues related to failure rather than prevention; and the lack of cooperative, supportive partnerships between school officials, teachers, and parents. Recommendations for improving outcomes for youth with disabilities and the use of resources to accommodate conventional education methods for special education programs include reform at the building-level which fosters collaboration between administrators of special and regular education programs, and the use of curriculum-based assessment which places emphasis on each individual student's achievements rather than on student categories or labels for instructional planning purposes.

Ysseldyke, J. E., Thurlow, M. L., Algozzine, B., Nathan, J. (1993). Open enrollment and student with disabilities: Issues, concerns, fears, and anticipated benefits. ***Exceptional Children, 59*****(5), 390-401.**

The authors discuss issues related to public school choice (i.e., open enrollment) and their implications for students with disabilities in special education programs. They held a working session with educators, administrators, legislators, parents, students, and policymakers to clarify issues of choice affecting students with disabilities. Their purpose was to obtain and synthesize the thoughts of knowledgeable people who had considered the implications of choice legislation. This represents the first step in a five-year investigation of the effects of open enrollment legislation on students with disabilities. The authors identified three groups of issues: (a) issues for students who change schools, (b) issues for students who do not change schools, and (c) issues for districts. They further categorized these groups into demographic, implementation, and outcome issues. Based on these three categories, 29 issues were chosen to set the research agenda on choice for students with disabilities.